

Applicant : James J. Cervera et al.
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Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Previously presented) A primary alkaline battery, comprising:
a cathode comprising
manganese dioxide and
carbon particles comprising expanded graphite particles and non-expanded graphite particles, the expanded graphite particles having a kerosene absorption greater than about 3.6 milliliters per gram;
an anode;
a separator; and
an alkaline electrolyte.
2. (Cancelled)
3. (Cancelled)
4. (Original) The battery of claim 1, wherein the expanded graphite particles have a kerosene absorption greater than about 4.0 milliliters per gram.
5. (Original) The battery of claim 1, wherein the expanded graphite particles have a kerosene absorption greater than about 4.5 milliliters per gram.
6. (Original) The battery of claim 1, wherein the expanded graphite particles have a kerosene absorption greater than about 5.0 milliliters per gram.

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7. (Previously presented) The battery of claim 1, wherein the carbon particles comprise between about 75% and 25% of expanded graphite particles by weight and between about 25% and 75% of non-expanded graphite particles by weight.

8. (Previously presented) The battery of claim 1, wherein the carbon particles comprise between about 60% and 40% of expanded graphite particles by weight and between about 40% and 60% of non-expanded graphite particles by weight.

9. (Original) The battery of claim 1, wherein the non-expanded graphite particles have an average particle size of less than about 40 microns.

10. (Currently amended) A primary alkaline battery, comprising:
a cathode comprising

between about 85% and about 90% of manganese dioxide by weight and
carbon particles comprising expanded graphite particles and non-expanded graphite particles, the expanded graphite particles having a BET surface area of at least greater than about 5 m²/g and less than about 14 m²/g;

an anode;

a separator; and

an alkaline electrolyte.

11. (Previously amended) The battery of claim 10, wherein the expanded graphite particles have a BET surface area of greater than about 10 m²/g and less than about 14 m²/g.

12. (Cancelled)

13. (Cancelled)

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14. (Original) The battery of claim 10, wherein the cathode comprises between about 75% and 25% of expanded graphite particles by weight and between about 25% and 75% of non-expanded graphite particles by weight.

15. (Original) The battery of claim 10, wherein the cathode comprises between about 60% and 40% of expanded graphite particles by weight and between about 40% and 60% of non-expanded graphite particles by weight.

16. (Original) The battery of claim 10, wherein the non-expanded graphite particles have an average particle size of less than about 40 microns.

17-21. (Cancelled)

22. (Currently amended) A primary alkaline battery, comprising:
a cathode comprising

between about 85% and about 90% of manganese dioxide by weight and
carbon particles comprising expanded graphite particles and non-expanded graphite particles, the expanded graphite particles having a D_{50} particle size that is greater than 40 microns and less than or equal to about 100 microns;
an anode;
a separator; and
an alkaline electrolyte.

23. (Cancelled)

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24. (Previously presented) The battery of claim 22, wherein the expanded graphite particles have a D_{50} particle size that is greater than 40 microns and less than or equal to about 50 microns.

25. (Previously presented) The battery of claim 22, wherein the carbon particles comprise between about 75% and 25% of expanded graphite particles by weight and between about 25% and 75% of non-expanded graphite particles by weight.

26. (Previously presented) The battery of claim 22, wherein the carbon particles comprise between about 60% and 40% of expanded graphite particles by weight and between about 40% and 60% of non-expanded graphite particles by weight.

27. (Cancelled)

28. (Original) A primary alkaline battery, comprising:
a cathode comprising

manganese dioxide and
expanded graphite particles having a kerosene absorption greater than
about 4.4 milliliters per gram;
an anode;
a separator; and
an alkaline electrolyte.

29. (Original) The battery of claim 28, wherein the graphite particles have a kerosene absorption between about 5 and about 6 milliliters per gram.

30. (Original) The battery of claim 28, wherein the graphite particles have a kerosene absorption between about 5.2 and about 5.6 milliliters per gram.

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31. (Original) The battery of claim 28, wherein the graphite particles have a kerosene absorption about 5.4 milliliters per gram.

32. (Original) The battery of claim 28, wherein the cathode comprises between about 2% and about 10% of expanded graphite particles by weight.

33. (Original) The battery of claim 28, wherein the cathode comprises between about 3% and about 6% of expanded graphite particles by weight.

34. (Original) The battery of claim 28, wherein the cathode comprises between about 80% and about 95% of manganese dioxide by weight.

35. (Original) The battery of claim 28, wherein the cathode comprises between about 85% and about 90% of manganese dioxide by weight.

36. (Original) The battery of claim 28, wherein the cathode further comprises non-expanded graphite particles.

37. (Previously presented) The battery of claim 36, wherein the carbon particles comprise between about 75% and 25% of expanded graphite particles by weight and between about 25% and 75% of non-expanded graphite particles by weight.

38. (Previously presented) The battery of claim 36, wherein the carbon particles comprise between about 60% and 40% of expanded graphite particles by weight and between about 40% and 60% of non-expanded graphite particles by weight.

39. (Currently amended) A primary alkaline battery, comprising:

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a cathode comprising

between about 85% and about 90% of manganese dioxide by weight and
expanded graphite particles having a total pore volume greater than about
0.1 milliliter per gram;

an anode;

a separator; and

an alkaline electrolyte.

40. (Original) The battery of claim 39, wherein the expanded graphite particles have a total pore volume greater than about 0.15 milliliter per gram.

41. (Original) The battery of claim 39, wherein the expanded graphite particles have a total pore volume greater than about 0.2 milliliter per gram.

42. (Original) The battery of claim 39, wherein the cathode comprises between about 2% and about 10% of expanded graphite particles by weight.

43. (Original) The battery of claim 39, wherein the cathode comprises between about 3% and about 6% of expanded graphite particles by weight.

44. (Cancelled)

45. (Cancelled)

46. (Original) The battery of claim 39, wherein the cathode further comprises non-expanded graphite particles.

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47. (Previously presented) The battery of claim 46, wherein the carbon particles comprise between about 75% and 25% of expanded graphite particles by weight and between about 25% and 75% of non-expanded graphite particles by weight.

48. (Previously presented) The battery of claim 46, wherein the carbon particles comprise between about 60% and 40% of expanded graphite particles by weight and between about 40% and 60% of non-expanded graphite particles by weight.

49. (Original) The battery of claim 46, wherein the non-expanded graphite particles have an average particle size of less than about 40 microns.

50. (New) The battery of claim 22, wherein the expanded graphite particles have a D_{50} particle size that is greater than 50 microns and less than or equal to about 100 microns.